
Subject: Re: Dicom?

Posted by [Karri Kaksonen](#) on Wed, 19 Jan 2000 08:00:00 GMT

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Anders,

I had the same problem some time ago. This solution is far from perfect as it does not handle all cases. But as a quick hack it has worked for me. (Thanks for all the nice `_old_timers_` who helped me to discover the power of WHERE).

The `*self.tag` contains the structure you want to write to a Dicom file.

The `dcmmap` contains the `_giant_` Dicom class library. I have just implemented the tags I am interested in.

You may have to do some modifications to different datatypes. I just needed to write arrays and ints.

I also am more fond of names so instead of referring to elements as '0000'x '0800'x like they do in IDLffDicom I have used ASCII strings.

Hope this helps.

```
function DicomClassLibrary
  dcmmap0 = { $
    Group0len: '00000000'xl, $
    ...
  }
  return,
  create_struct(dcmmap0,dcmmap1,dcmmap2,dcmmap3,dcmmap4,dcmmap 5)
end
```

```
pro proviewfileio::write_dcm, filename
  if n_elements(filename) eq 0 then $
    filename = dialog_pickfile(/write,filter="*.dcm")
  dcmmap = DicomClassLibrary()
  openw, unit, filename, /get_lun
  names = tag_names(*self.tag)
  dcmnames = tag_names(dcmmap)
  for i=0, n_tags(*self.tag)-1 do begin
    tag = WHERE(dcmnames eq names[i],count)
    if count eq 1 then begin
      space = n_elements((*self.tag).(i))
      element = uint(dcmmap.(tag[0]),0,2)
      writeu,unit,element[0],element[1],space * 4l,(*self.tag).(i)
    end
  end
```

```
endfor
free_lun,unit
end
```

Anders Wennerberg wrote:

```
>
> Dear comp.lang.idl-pwvave
> I have stumble into a situation where I would like to be able to read (yes it
> is possible in IDL) and write Dicom - is/are there any application for IDL that
> can write in Dicom?
>
> Best regards
> Anders
```

```
--
Regards,
```

Karri

PS. I have added a Dicom class library that you can choose your elements from.

```
codes[] = {
  { 0x0000, 0x0000, 'UL', "Group 0000 Length" },
  { 0x0000, 0x0001, 'UL', "Group 0000 Length to End (RET)" },
  { 0x0000, 0x0002, 'UI', "Affected SOP Class UID" },
  { 0x0000, 0x0003, 'UI', "Requested SOP Class UID" },
  { 0x0000, 0x0010, 'SH', "Recognition Code (RET)" },
  { 0x0000, 0x0100, 'US', "Command Field" },
  { 0x0000, 0x0110, 'US', "Message ID" },
  { 0x0000, 0x0120, 'US', "Message Id being Responded to" },
  { 0x0000, 0x0200, 'AE', "Initiator (RET)" },
  { 0x0000, 0x0300, 'AE', "Receiver (RET)" },
  { 0x0000, 0x0400, 'AE', "Find Location (RET)" },
  { 0x0000, 0x0600, 'AE', "Move Destination" },
  { 0x0000, 0x0700, 'US', "Priority" },
  { 0x0000, 0x0800, 'US', "Data Set Type" },
  { 0x0000, 0x0850, 'US', "Number of Matches (RET)" },
  { 0x0000, 0x0860, 'US', "Response Sequence Number (RET)" },
  { 0x0000, 0x0900, 'US', "Status" },
  { 0x0000, 0x0901, 'AT', "Offending Element" },
  { 0x0000, 0x0902, 'LO', "Error Comment" },
  { 0x0000, 0x0903, 'US', "Error ID" },
  { 0x0000, 0x1000, 'UI', "Affected SOP Instance UID" },
  { 0x0000, 0x1001, 'UI', "Requested SOP Instance UID" },
  { 0x0000, 0x1002, 'US', "Event Type ID" },
  { 0x0000, 0x1005, 'AT', "Attribute Identifier List" },
  { 0x0000, 0x1008, 'US', "Action Type ID" },
```

```

{ 0x0000, 0x1012, 'UI', "Requested SOP Instance UID List" },
{ 0x0000, 0x1020, 'US', "Number of Remaining Sub-operations" },
{ 0x0000, 0x1021, 'US', "Number of Completed Sub-operations" },
{ 0x0000, 0x1022, 'US', "Number of Failed Sub-operations" },
{ 0x0000, 0x1023, 'US', "Number of Warning Sub-operations" },
{ 0x0000, 0x1030, 'AE', "Move Originator Application Entity Title" },
{ 0x0000, 0x1031, 'US', "Move Originator Message ID" },
{ 0x0000, 0x5010, 'LO', "Message Set ID (RET)" },
{ 0x0000, 0x5020, 'LO', "End Message Set ID (RET)" },
{ 0x0002, 0x0000, 'UL', "Group 0002 Length" },
{ 0x0002, 0x0001, 'OB', "File Meta Information Version" },
{ 0x0002, 0x0002, 'UI', "Media Stored SOP Class UID" },
{ 0x0002, 0x0003, 'UI', "Media Stored SOP Instance UID" },
{ 0x0002, 0x0010, 'UI', "Transfer Syntax UID" },
{ 0x0002, 0x0012, 'UI', "Implementation Class UID" },
{ 0x0002, 0x0013, 'SH', "Implementation Version Name" },
{ 0x0002, 0x0016, 'AE', "Source Application Entity Title" },
{ 0x0002, 0x0100, 'UI', "Private Information Creator UID" },
{ 0x0002, 0x0102, 'OB', "Private Information" },
{ 0x0004, 0x0000, 'UL', "Group 0004 Length" },
{ 0x0004, 0x1130, 'CS', "File-set ID" },
{ 0x0004, 0x1141, 'CS', "File-set Descriptor File File ID" },
{ 0x0004, 0x1142, 'CS', "File-set Descriptor File Format" },
{ 0x0004, 0x1200, 'UL', "Root Directory Entity's First Directory
Record Offset" },
{ 0x0004, 0x1202, 'UL', "Root Directory Entity's Last Directory Record
Offset" },
{ 0x0004, 0x1212, 'US', "File-set Consistence Flag" },
{ 0x0004, 0x1220, 'SQ', "Directory Record Sequence" },
{ 0x0004, 0x1400, 'UL', "Next Directory Record Offset" },
{ 0x0004, 0x1410, 'US', "Record In-use Flag" },
{ 0x0004, 0x1420, 'UL', "Referenced Lower-level Directory Entity
Offset" },
{ 0x0004, 0x1430, 'CS', "Directory Record Type" },
{ 0x0004, 0x1432, 'UI', "Private Record UID" },
{ 0x0004, 0x1500, 'CS', "Referenced File ID" },
{ 0x0004, 0x1510, 'UI', "Referenced SOP Class UID in File" },
{ 0x0004, 0x1511, 'UI', "Referenced SOP Instance UID in File" },
{ 0x0004, 0x1600, 'UL', "Number of References" },
{ 0x0008, 0x0000, 'UL', "Group 0008 Length" },
{ 0x0008, 0x0001, 'UL', "Group 0008 Length to End (RET)" },
{ 0x0008, 0x0005, 'CS', "Specific Character Set" },
{ 0x0008, 0x0008, 'CS', "Image Type" },
{ 0x0008, 0x0010, 'SH', "Recognition Code (RET)" },
{ 0x0008, 0x0012, 'DA', "Instance Creation Date" },
{ 0x0008, 0x0013, 'TM', "Instance Creation Time" },
{ 0x0008, 0x0014, 'UI', "Instance Creator UID" },
{ 0x0008, 0x0016, 'UI', "SOP Class UID" },

```

```

{ 0x0008, 0x0018, 'UI', "SOP Instance UID" },
{ 0x0008, 0x0020, 'DA', "Study Date" },
{ 0x0008, 0x0021, 'DA', "Series Date" },
{ 0x0008, 0x0022, 'DA', "Acquisition Date" },
{ 0x0008, 0x0023, 'DA', "Image Date" },
{ 0x0008, 0x0024, 'DA', "Overlay Date" },
{ 0x0008, 0x0025, 'DA', "Curve Date" },
{ 0x0008, 0x0030, 'TM', "Study Time" },
{ 0x0008, 0x0031, 'TM', "Series Time" },
{ 0x0008, 0x0032, 'TM', "Acquisition Time" },
{ 0x0008, 0x0033, 'TM', "Image Time" },
{ 0x0008, 0x0034, 'TM', "Overlay Time" },
{ 0x0008, 0x0035, 'TM', "Curve Time" },
{ 0x0008, 0x0040, 'US', "Data Set Type (RET)" },
{ 0x0008, 0x0041, 'SH', "Data Set Subtype (RET)" },
{ 0x0008, 0x0042, 'CS', "Nuclear Medicine Series Type" },
{ 0x0008, 0x0050, 'SH', "Accession Number" },
{ 0x0008, 0x0052, 'CS', "Query/Retrieve Level" },
{ 0x0008, 0x0054, 'AE', "Retrieve AE Title" },
{ 0x0008, 0x0058, 'AE', "Failed SOP Instance UID List" },
{ 0x0008, 0x0060, 'CS', "Modality" },
{ 0x0008, 0x0064, 'CS', "Conversion Type" },
{ 0x0008, 0x0070, 'LO', "Manufacturer" },
{ 0x0008, 0x0080, 'LO', "Institution Name" },
{ 0x0008, 0x0081, 'ST', "Institution Address" },
{ 0x0008, 0x0082, 'SQ', "Institution Code Sequence" },
{ 0x0008, 0x0090, 'PN', "Referring Physician's Name" },
{ 0x0008, 0x0092, 'ST', "Referring Physician's Address" },
{ 0x0008, 0x0094, 'SH', "Referring Physician's Telephone Numbers" },
{ 0x0008, 0x0100, 'SH', "Code Value" },
{ 0x0008, 0x0102, 'SH', "Coding Scheme Designator" },
{ 0x0008, 0x0104, 'LO', "Code Meaning" },
{ 0x0008, 0x1000, 'SH', "Network ID (RET)" },
{ 0x0008, 0x1010, 'SH', "Station Name" },
{ 0x0008, 0x1030, 'LO', "Study Description" },
{ 0x0008, 0x1032, 'SQ', "Procedure Code Sequence" },
{ 0x0008, 0x103E, 'LO', "Series Description" },
{ 0x0008, 0x1040, 'LO', "Institutional Department Name" },
{ 0x0008, 0x1050, 'PN', "Attending Physician's Name" },
{ 0x0008, 0x1060, 'PN', "Name of Physician(s) Reading Study" },
{ 0x0008, 0x1070, 'PN', "Operator's Name" },
{ 0x0008, 0x1080, 'LO', "Admitting Diagnoses Description" },
{ 0x0008, 0x1084, 'SQ', "Admitting Diagnosis Code Sequence" },
{ 0x0008, 0x1090, 'LO', "Manufacturer's Model Name" },
{ 0x0008, 0x1100, 'SQ', "Referenced Results Sequence" },
{ 0x0008, 0x1110, 'SQ', "Referenced Study Sequence" },
{ 0x0008, 0x1111, 'SQ', "Referenced Study Component Sequence" },
{ 0x0008, 0x1115, 'SQ', "Referenced Series Sequence" },

```

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{ 0x0008, 0x1120, 'SQ', "Referenced Patient Sequence" },
{ 0x0008, 0x1125, 'SQ', "Referenced Visit Sequence" },
{ 0x0008, 0x1130, 'SQ', "Referenced Overlay Sequence" },
{ 0x0008, 0x1140, 'SQ', "Referenced Image Sequence" },
{ 0x0008, 0x1145, 'SQ', "Referenced Curve Sequence" },
{ 0x0008, 0x1150, 'UI', "Referenced SOP Class UID" },
{ 0x0008, 0x1155, 'UI', "Referenced SOP Instance UID" },
{ 0x0008, 0x2111, 'ST', "Derivation Description" },
{ 0x0008, 0x2112, 'SQ', "Source Image Sequence" },
{ 0x0008, 0x2120, 'SH', "Stage Name" },
{ 0x0008, 0x2122, 'IS', "Stage Number" },
{ 0x0008, 0x2124, 'IS', "Number of Stages" },
{ 0x0008, 0x2129, 'IS', "Number of Event Timers" },
{ 0x0008, 0x2128, 'IS', "View Number" },
{ 0x0008, 0x212A, 'IS', "Number of Views in Stage" },
{ 0x0008, 0x2130, 'DS', "Event Elapsed Time(s)" },
{ 0x0008, 0x2132, 'LO', "Event Timer Name(s)" },
{ 0x0008, 0x2142, 'IS', "Start Trim" },
{ 0x0008, 0x2143, 'IS', "Stop Trim" },
{ 0x0008, 0x2144, 'IS', "Recommended Display Frame Rate" },
{ 0x0008, 0x2200, 'CS', "Transducer Position" },
{ 0x0008, 0x2204, 'CS', "Transducer Orientation" },
{ 0x0008, 0x2208, 'CS', "Anatomic Structure" },
{ 0x0008, 0x4000, 'SH', "Group 0008 Comments (RET)" },
{ 0x0010, 0x0000, 'UL', "Group 0010 Length" },
{ 0x0010, 0x0010, 'PN', "Patient's Name" },
{ 0x0010, 0x0020, 'LO', "Patient ID" },
{ 0x0010, 0x0021, 'LO', "Issuer of Patient ID" },
{ 0x0010, 0x0030, 'DA', "Patient's Birth Date" },
{ 0x0010, 0x0032, 'TM', "Patient's Birth Time" },
{ 0x0010, 0x0040, 'CS', "Patient's Sex" },
{ 0x0010, 0x0042, 'SH', "Patient's Social Security Number" },
{ 0x0010, 0x0050, 'SQ', "Patient's Insurance Plan Code Sequence" },
{ 0x0010, 0x1000, 'LO', "Other Patient IDs" },
{ 0x0010, 0x1001, 'PN', "Other Patient Names" },
{ 0x0010, 0x1005, 'PN', "Patient's Maiden Name" },
{ 0x0010, 0x1010, 'AS', "Patient's Age" },
{ 0x0010, 0x1020, 'DS', "Patient's Size" },
{ 0x0010, 0x1030, 'DS', "Patient's Weight" },
{ 0x0010, 0x1040, 'LO', "Patient's Address" },
{ 0x0010, 0x1050, 'SH', "Insurance Plan Identification (RET)" },
{ 0x0010, 0x1060, 'PN', "Patient's Mother's Maiden Name" },
{ 0x0010, 0x1080, 'LO', "Military Rank" },
{ 0x0010, 0x1081, 'LO', "Branch of Service" },
{ 0x0010, 0x1090, 'LO', "Medical Record Locator" },
{ 0x0010, 0x2000, 'LO', "Medical Alerts" },
{ 0x0010, 0x2110, 'LO', "Contrast Allergies" },
{ 0x0010, 0x2150, 'LO', "Country of Residence" },

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{ 0x0010, 0x2152, 'LO', "Region of Residence" },
{ 0x0010, 0x2154, 'SH', "Patient's Telephone Numbers" },
{ 0x0010, 0x2160, 'SH', "Ethnic Group" },
{ 0x0010, 0x2180, 'SH', "Occupation" },
{ 0x0010, 0x21A0, 'CS', "Smoking Status" },
{ 0x0010, 0x21B0, 'LT', "Additional Patient History" },
{ 0x0010, 0x21C0, 'US', "Pregnancy Status" },
{ 0x0010, 0x21D0, 'DA', "Last Menstrual Date" },
{ 0x0010, 0x21F0, 'LO', "Patient's Religious Preference" },
{ 0x0010, 0x4000, 'LT', "Patient Comments" },
{ 0x0018, 0x0000, 'UL', "Group 0018 Length" },
{ 0x0018, 0x0010, 'LO', "Contrast/Bolus Agent" },
{ 0x0018, 0x0015, 'CS', "Body Part Examined" },
{ 0x0018, 0x0020, 'CS', "Scanning Sequence" },
{ 0x0018, 0x0021, 'CS', "Sequence Variant" },
{ 0x0018, 0x0022, 'CS', "Scan Options" },
{ 0x0018, 0x0023, 'CS', "MR Acquisition Type" },
{ 0x0018, 0x0024, 'SH', "Sequence Name" },
{ 0x0018, 0x0025, 'CS', "Angio Flag" },
{ 0x0018, 0x0030, 'LO', "Radionuclide" },
{ 0x0018, 0x0031, 'LO', "Radiopharmaceutical" },
{ 0x0018, 0x0032, 'DS', "Energy Window Centerline" },
{ 0x0018, 0x0033, 'DS', "Energy Window Total Width" },
{ 0x0018, 0x0034, 'LO', "Intervention Drug Name" },
{ 0x0018, 0x0035, 'TM', "Intervention Drug Start Time" },
{ 0x0018, 0x0040, 'IS', "Cine Rate" },
{ 0x0018, 0x0050, 'DS', "Slice Thickness" },
{ 0x0018, 0x0060, 'DS', "KVP" },
{ 0x0018, 0x0070, 'IS', "Counts Accumulated" },
{ 0x0018, 0x0071, 'CS', "Acquisition Termination Condition" },
{ 0x0018, 0x0072, 'DS', "Effective Series Duration" },
{ 0x0018, 0x0080, 'DS', "Repetition Time" },
{ 0x0018, 0x0081, 'DS', "Echo Time" },
{ 0x0018, 0x0082, 'DS', "Inversion Time" },
{ 0x0018, 0x0083, 'DS', "Number of Averages" },
{ 0x0018, 0x0084, 'DS', "Imaging Frequency" },
{ 0x0018, 0x0085, 'SH', "Imaged Nucleus" },
{ 0x0018, 0x0086, 'IS', "Echo Numbers(s)" },
{ 0x0018, 0x0087, 'DS', "Magnetic Field Strength" },
{ 0x0018, 0x0088, 'DS', "Spacing Between Slices" },
{ 0x0018, 0x0089, 'IS', "Number of Phase Encoding Steps" },
{ 0x0018, 0x0090, 'DS', "Data Collection Diameter" },
{ 0x0018, 0x0091, 'IS', "Echo Train Length" },
{ 0x0018, 0x0093, 'DS', "Percent Sampling" },
{ 0x0018, 0x0094, 'DS', "Percent Phase Field of View" },
{ 0x0018, 0x0095, 'DS', "Pixel Bandwidth" },
{ 0x0018, 0x1000, 'LO', "Device Serial Number" },
{ 0x0018, 0x1004, 'LO', "Plate ID" },

```



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{ 0x0018, 0x1010, 'LO', "Secondary Capture Device ID" },
{ 0x0018, 0x1012, 'DA', "Date of Secondary Capture" },
{ 0x0018, 0x1014, 'TM', "Time of Secondary Capture" },
{ 0x0018, 0x1016, 'LO', "Secondary Capture Device Manufacturer" },
{ 0x0018, 0x1018, 'LO', "Secondary Capture Device Manufacturer's Model
Name" },
{ 0x0018, 0x1019, 'LO', "Secondary Capture Device Software Version(s)"
},
{ 0x0018, 0x1020, 'LO', "Software Versions(s)" },
{ 0x0018, 0x1022, 'SH', "Video Image Format Acquired" },
{ 0x0018, 0x1023, 'LO', "Digital Image Format Acquired" },
{ 0x0018, 0x1030, 'LO', "Protocol Name" },
{ 0x0018, 0x1040, 'LO', "Contrast/Bolus Route" },
{ 0x0018, 0x1041, 'DS', "Contrast/Bolus Volume" },
{ 0x0018, 0x1042, 'TM', "Contrast/Bolus Start Time" },
{ 0x0018, 0x1043, 'TM', "Contrast/Bolus Stop Time" },
{ 0x0018, 0x1044, 'DS', "Contrast/Bolus Total Dose" },
{ 0x0018, 0x1045, 'IS', "Syringe Counts" },
{ 0x0018, 0x1050, 'DS', "Spatial Resolution" },
{ 0x0018, 0x1060, 'DS', "Trigger Time" },
{ 0x0018, 0x1061, 'LO', "Trigger Source or Type" },
{ 0x0018, 0x1062, 'IS', "Nominal Interval" },
{ 0x0018, 0x1063, 'DS', "Frame Time" },
{ 0x0018, 0x1064, 'LO', "Framing Type" },
{ 0x0018, 0x1065, 'DS', "Frame Time Vector" },
{ 0x0018, 0x1066, 'DS', "Frame Delay" },
{ 0x0018, 0x1070, 'LO', "Radionuclide Route" },
{ 0x0018, 0x1071, 'DS', "Radionuclide Volume" },
{ 0x0018, 0x1072, 'TM', "Radionuclide Start Time" },
{ 0x0018, 0x1073, 'TM', "Radionuclide Stop Time" },
{ 0x0018, 0x1074, 'DS', "Radionuclide Total Dose" },
{ 0x0018, 0x1080, 'CS', "Beat Rejection Flag" },
{ 0x0018, 0x1081, 'IS', "Low R-R Value" },
{ 0x0018, 0x1082, 'IS', "High R-R Value" },
{ 0x0018, 0x1083, 'IS', "Intervals Acquired" },
{ 0x0018, 0x1084, 'IS', "Intervals Rejected" },
{ 0x0018, 0x1085, 'LO', "PVC Rejection" },
{ 0x0018, 0x1086, 'IS', "Skip Beats" },
{ 0x0018, 0x1088, 'IS', "Heart Rate" },
{ 0x0018, 0x1090, 'IS', "Cardiac Number of Images" },
{ 0x0018, 0x1094, 'IS', "Trigger Window" },
{ 0x0018, 0x1100, 'DS', "Reconstruction Diameter" },
{ 0x0018, 0x1110, 'DS', "Distance Source to Detector" },
{ 0x0018, 0x1111, 'DS', "Distance Source to Patient" },
{ 0x0018, 0x1120, 'DS', "Gantry/Detector Tilt" },
{ 0x0018, 0x1030, 'DS', "Table Height" },
{ 0x0018, 0x1131, 'DS', "Table Traverse" },
{ 0x0018, 0x1140, 'CS', "Rotation Direction" },

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```

{ 0x0018, 0x1141, 'DS', "Angular Position" },
{ 0x0018, 0x1142, 'DS', "Radial Position" },
{ 0x0018, 0x1143, 'DS', "Scan Arc" },
{ 0x0018, 0x1144, 'DS', "Angular Step" },
{ 0x0018, 0x1145, 'DS', "Center of Rotation Offset" },
{ 0x0018, 0x1146, 'DS', "Rotation Offset" },
{ 0x0018, 0x1147, 'CS', "Field of View Shape" },
{ 0x0018, 0x1149, 'IS', "Field of View Dimensions(s)" },
{ 0x0018, 0x1150, 'IS', "Exposure Time" },
{ 0x0018, 0x1151, 'IS', "X-ray Tube Current" },
{ 0x0018, 0x1152, 'IS', "Exposure" },
{ 0x0018, 0x1160, 'SH', "Filter Type" },
{ 0x0018, 0x1170, 'IS', "Generator Power" },
{ 0x0018, 0x1180, 'SH', "Collimator/grid Name" },
{ 0x0018, 0x1181, 'CS', "Collimator Type" },
{ 0x0018, 0x1182, 'IS', "Focal Distance" },
{ 0x0018, 0x1183, 'DS', "X Focus Center" },
{ 0x0018, 0x1184, 'DS', "Y Focus Center" },
{ 0x0018, 0x1190, 'DS', "Focal Spot(s)" },
{ 0x0018, 0x1200, 'DA', "Date of Last Calibration" },
{ 0x0018, 0x1201, 'TM', "Time of Last Calibration" },
{ 0x0018, 0x1210, 'SH', "Convolution Kernel" },
{ 0x0018, 0x1240, 'DS', "Upper/Lower Pixel Values (RET)" },
{ 0x0018, 0x1242, 'IS', "Actual Frame Duration" },
{ 0x0018, 0x1243, 'IS', "Count Rate" },
{ 0x0018, 0x1250, 'SH', "Receiving Coil" },
{ 0x0018, 0x1151, 'SH', "Transmitting Coil" },
{ 0x0018, 0x1160, 'SH', "Screen Type" },
{ 0x0018, 0x1261, 'LO', "Phosphor Type" },
{ 0x0018, 0x1300, 'IS', "Scan Velocity" },
{ 0x0018, 0x1301, 'CS', "Whole Body Technique" },
{ 0x0018, 0x1302, 'IS', "Scan Length" },
{ 0x0018, 0x1310, 'US', "Acquisition Matrix" },
{ 0x0018, 0x1312, 'CS', "Phase Encoding Direction" },
{ 0x0018, 0x1314, 'DS', "Flip Angle" },
{ 0x0018, 0x1315, 'CS', "Variable Flip Angle Flag" },
{ 0x0018, 0x1316, 'DS', "SAR" },
{ 0x0018, 0x1318, 'DS', "dB/dt" },
{ 0x0018, 0x1400, 'LO', "Acquisition Device Processing Description" },
{ 0x0018, 0x1401, 'LO', "Acquisition Device Processing Code" },
{ 0x0018, 0x1402, 'CS', "Cassette Orientation" },
{ 0x0018, 0x1403, 'CS', "Cassette Size" },
{ 0x0018, 0x1404, 'US', "Exposures on Plate" },
{ 0x0018, 0x1405, 'IS', "Relative X-ray Exposure" },
{ 0x0018, 0x4000, 'SH', "Group 0018 Comments (RET)" },
{ 0x0018, 0x5000, 'SH', "Output Power" },
{ 0x0018, 0x5010, 'LO', "Transducer Data" },
{ 0x0018, 0x5012, 'DS', "Focus Depth" },

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{ 0x0018, 0x5020, 'LO', "Preprocessing Function" },
{ 0x0018, 0x5021, 'LO', "Postprocessing Function" },
{ 0x0018, 0x5022, 'DS', "Mechanical Index" },
{ 0x0018, 0x5024, 'DS', "Thermal Index" },
{ 0x0018, 0x5026, 'DS', "Cranial Thermal Index" },
{ 0x0018, 0x5027, 'DS', "Soft Tissue Thermal Index" },
{ 0x0018, 0x5028, 'DS', "Soft Tissue-focus Thermal Index" },
{ 0x0018, 0x5029, 'DS', "Soft Tissue-surface Thermal Index" },
{ 0x0018, 0x5030, 'IS', "Dynamic Range (RET)" },
{ 0x0018, 0x5040, 'IS', "Total Gain (RET)" },
{ 0x0018, 0x5050, 'IS', "Depth of Scan Field" },
{ 0x0018, 0x5100, 'CS', "Patient Position" },
{ 0x0018, 0x5101, 'CS', "View Position" },
{ 0x0018, 0x5210, 'DS', "Image Transformation Matrix" },
{ 0x0018, 0x5212, 'DS', "Image Translation Vector" },
{ 0x0018, 0x6000, 'DS', "Sensitivity" },
{ 0x0018, 0x6011, 'SQ', "Sequence of Ultrasound Regions" },
{ 0x0018, 0x6012, 'US', "Region Spatial Format" },
{ 0x0018, 0x6014, 'US', "Region Data Type" },
{ 0x0018, 0x6016, 'UL', "Region Flags" },
{ 0x0018, 0x6018, 'UL', "Region Location Min X0" },
{ 0x0018, 0x601A, 'UL', "Region Location Min Y0" },
{ 0x0018, 0x601C, 'UL', "Region Location Max X1" },
{ 0x0018, 0x601E, 'UL', "Region Location Max Y1" },
{ 0x0018, 0x6020, 'SL', "Reference Pixel X0" },
{ 0x0018, 0x6022, 'SL', "Reference Pixel Y0" },
{ 0x0018, 0x6024, 'US', "Physical Units X Direction" },
{ 0x0018, 0x6026, 'US', "Physical Units Y Direction" },
{ 0x0018, 0x1628, 'FD', "Reference Pixel Physical Value X" },
{ 0x0018, 0x602A, 'FD', "Reference Pixel Physical Value Y" },
{ 0x0018, 0x602C, 'FD', "Physical Delta X" },
{ 0x0018, 0x602E, 'FD', "Physical Delta Y" },
{ 0x0018, 0x6030, 'UL', "Transducer Frequency" },
{ 0x0018, 0x6031, 'CS', "Transducer Type" },
{ 0x0018, 0x6032, 'UL', "Pulse Repetition Frequency" },
{ 0x0018, 0x6034, 'FD', "Doppler Correction Angle" },
{ 0x0018, 0x6036, 'FD', "Steering Angle" },
{ 0x0018, 0x6038, 'UL', "Doppler Sample Volume X Position" },
{ 0x0018, 0x603A, 'UL', "Doppler Sample Volume Y Position" },
{ 0x0018, 0x603C, 'UL', "TM-Line Position X0" },
{ 0x0018, 0x603E, 'UL', "TM-Line Position Y0" },
{ 0x0018, 0x6040, 'UL', "TM-Line Position X1" },
{ 0x0018, 0x6042, 'UL', "TM-Line Position Y1" },
{ 0x0018, 0x6044, 'US', "Pixel Component Organization" },
{ 0x0018, 0x6046, 'UL', "Pixel Component Organization" },
{ 0x0018, 0x6048, 'UL', "Pixel Component Range Start" },
{ 0x0018, 0x604A, 'UL', "Pixel Component Range Stop" },
{ 0x0018, 0x604C, 'US', "Pixel Component Physical Units" },

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{ 0x0018, 0x604E, 'US', "Pixel Component Data Type" },
{ 0x0018, 0x6050, 'UL', "Number of Table Break Points" },
{ 0x0018, 0x6052, 'UL', "Table of X Break Points" },
{ 0x0018, 0x6054, 'FD', "Table of Y Break Points" },
{ 0x0020, 0x0000, 'UL', "Group 0020 Length" },
{ 0x0020, 0x000D, 'UI', "Study Instance UID" },
{ 0x0020, 0x000E, 'UI', "Series Instance UID" },
{ 0x0020, 0x0010, 'SH', "Study ID" },
{ 0x0020, 0x0011, 'IS', "Series Number" },
{ 0x0020, 0x0012, 'IS', "Acquisition Number" },
{ 0x0020, 0x0013, 'IS', "Image Number" },
{ 0x0020, 0x0014, 'IS', "Isotope Number" },
{ 0x0020, 0x0015, 'IS', "Phase Number" },
{ 0x0020, 0x0016, 'IS', "Interval Number" },
{ 0x0020, 0x0017, 'IS', "Time Slot Number" },
{ 0x0020, 0x0018, 'IS', "Angle Number" },
{ 0x0020, 0x0020, 'CS', "Patient Orientation" },
{ 0x0020, 0x0022, 'US', "Overlay Number" },
{ 0x0020, 0x0024, 'US', "Curve Number" },
{ 0x0020, 0x0030, 'DS', "Image Position (RET)" },
{ 0x0020, 0x0032, 'DS', "Image Position (Patient)" },
{ 0x0020, 0x0035, 'DS', "Image Orientation (RET)" },
{ 0x0020, 0x0037, 'DS', "Image Orientation (Patient)" },
{ 0x0020, 0x0050, 'DS', "Location (RET)" },
{ 0x0020, 0x0052, 'UI', "Frame of Reference UID" },
{ 0x0020, 0x0060, 'CS', "Laterality" },
{ 0x0020, 0x0070, 'SH', "Image Geometry Type (RET)" },
{ 0x0020, 0x0080, 'UI', "Masking Image UID" },
{ 0x0020, 0x0100, 'IS', "Temporal Position Identifier" },
{ 0x0020, 0x0105, 'IS', "Number of Temporal Positions" },
{ 0x0020, 0x0110, 'DS', "Temporal Resolution" },
{ 0x0020, 0x1000, 'IS', "Series in Study" },
{ 0x0020, 0x1001, 'IS', "Acquisitions in Series (RET)" },
{ 0x0020, 0x1002, 'IS', "Images in Acquisition" },
{ 0x0020, 0x1004, 'IS', "Acquisition in Study" },
{ 0x0020, 0x1020, 'SH', "Reference (RET)" },
{ 0x0020, 0x1040, 'LO', "Position Reference Indicator" },
{ 0x0020, 0x1041, 'DS', "Slice Location" },
{ 0x0020, 0x1070, 'IS', "Other Study Numbers" },
{ 0x0020, 0x1200, 'IS', "Number of Patient Related Studies" },
{ 0x0020, 0x1202, 'IS', "Number of Patient Related Series" },
{ 0x0020, 0x1204, 'IS', "Number of Patient Related Images" },
{ 0x0020, 0x1206, 'IS', "Number of Study Related Series" },
{ 0x0020, 0x1208, 'IS', "Number of Study Related Images" },
{ 0x0020, 0x3100, 'SH', "Source Image ID (RET)s" },
{ 0x0020, 0x3401, 'SH', "Modifying Device ID (RET)" },
{ 0x0020, 0x3402, 'SH', "Modified Image ID (RET)" },
{ 0x0020, 0x3403, 'SH', "Modified Image Date (RET)" },

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{ 0x0020, 0x3404, 'SH', "Modifying Device Manufacturer (RET)" },
{ 0x0020, 0x3405, 'SH', "Modified Image Time (RET)" },
{ 0x0020, 0x3406, 'SH', "Modified Image Description (RET)" },
{ 0x0020, 0x4000, 'LT', "Image Comments" },
{ 0x0020, 0x5000, 'US', "Original Image Identification (RET)" },
{ 0x0020, 0x5002, 'SH', "Original Image Identification Nomenclature
(RET)" },
{ 0x0028, 0x0000, 'UL', "Group 0028 Length" },
{ 0x0028, 0x0002, 'US', "Samples per Pixel" },
{ 0x0028, 0x0004, 'CS', "Photometric Interpretation" },
{ 0x0028, 0x0005, 'US', "Image Dimensions (RET)" },
{ 0x0028, 0x0006, 'US', "Planar Configuration" },
{ 0x0028, 0x0008, 'IS', "Number of Frames" },
{ 0x0028, 0x0009, 'AT', "Frame Increment Pointer" },
{ 0x0028, 0x0010, 'US', "Rows" },
{ 0x0028, 0x0011, 'US', "Columns" },
{ 0x0028, 0x0030, 'DS', "Pixel Spacing" },
{ 0x0028, 0x0031, 'DS', "Zoom Factor" },
{ 0x0028, 0x0032, 'DS', "Zoom Center" },
{ 0x0028, 0x0034, 'IS', "Pixel Aspect Ratio" },
{ 0x0028, 0x0040, 'SH', "Image Format (RET)" },
{ 0x0028, 0x0050, 'SH', "Manipulated Image (RET)" },
{ 0x0028, 0x0051, 'CS', "Corrected Image" },
{ 0x0028, 0x0060, 'SH', "Compression Code (RET)" },
{ 0x0028, 0x0100, 'US', "Bits Allocated" },
{ 0x0028, 0x0101, 'US', "Bits Stored" },
{ 0x0028, 0x0102, 'US', "High Bit" },
{ 0x0028, 0x0103, 'US', "Pixel Representation" },
{ 0x0028, 0x0104, 'US', "Smallest Valid Pixel Value (RET)" },
{ 0x0028, 0x0105, 'US', "Largest Valid Pixel Value (RET)" },
{ 0x0028, 0x0106, 'US', "Smallest Image Pixel Value" },
{ 0x0028, 0x0107, 'US', "Largest Image Pixel Value" },
{ 0x0028, 0x0108, 'US', "Smallest Pixel Value in Series" },
{ 0x0028, 0x0109, 'US', "Largest Pixel Value in Series" },
{ 0x0028, 0x0120, 'US', "Pixel Padding Value" },
{ 0x0028, 0x0200, 'US', "Image Location (RET)" },
{ 0x0028, 0x1050, 'DS', "Window Center" },
{ 0x0028, 0x1051, 'DS', "Window Width" },
{ 0x0028, 0x1052, 'DS', "Rescale Intercept" },
{ 0x0028, 0x1053, 'DS', "Rescale Slope" },
{ 0x0028, 0x1054, 'LO', "Rescale Type" },
{ 0x0028, 0x1055, 'LO', "Window Center & Width Explanation" },
{ 0x0028, 0x1080, 'SH', "Gray Scale (RET)" },
{ 0x0028, 0x1100, 'US', "Gray Lookup Table Descriptor (RET)" },
{ 0x0028, 0x1101, 'US', "Red Palette Color Lookup Table Descriptor" },
{ 0x0028, 0x1102, 'US', "Green Palette Color Lookup Table Descriptor"
},
{ 0x0028, 0x1103, 'US', "Blue Palette Color Lookup Table Descriptor"
}

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},
{ 0x0028, 0x1200, 'US', "Gray Lookup Table Data (RET)" },
{ 0x0028, 0x1201, 'US', "Red Palette Color Lookup Table Data" },
{ 0x0028, 0x1202, 'US', "Green Palette Color Lookup Table Data" },
{ 0x0028, 0x1203, 'US', "Blue Palette Color Lookup Table Data" },
{ 0x0028, 0x3000, 'SQ', "Modality LUT Sequence" },
{ 0x0028, 0x3002, 'US', "LUT Descriptor" },
{ 0x0028, 0x3003, 'LO', "LUT Explanation" },
{ 0x0028, 0x3004, 'LO', "Modality LUT Type" },
{ 0x0028, 0x3006, 'US', "LUT Data" },
{ 0x0028, 0x3010, 'SQ', "VOI LUT Sequence" },
{ 0x0028, 0x4000, 'SH', "Group 0028 Comments (RET)" },
{ 0x0032, 0x0000, 'UL', "Group 0032 Length" },
{ 0x0032, 0x000A, 'CS', "Study Status ID" },
{ 0x0032, 0x000C, 'CS', "Study Priority ID" },
{ 0x0032, 0x0012, 'LO', "Study ID Issuer" },
{ 0x0032, 0x0032, 'DA', "Study Verified Date" },
{ 0x0032, 0x0033, 'TM', "Study Verified Time" },
{ 0x0032, 0x0034, 'DA', "Study Read Date" },
{ 0x0032, 0x0035, 'TM', "Study Read Time" },
{ 0x0032, 0x1000, 'DA', "Scheduled Study Start Date" },
{ 0x0032, 0x1001, 'TM', "Scheduled Study Start Time" },
{ 0x0032, 0x1010, 'DA', "Scheduled Study Stop Date" },
{ 0x0032, 0x1011, 'TM', "Scheduled Study Stop Time" },
{ 0x0032, 0x1020, 'LO', "Scheduled Study Location" },
{ 0x0032, 0x1021, 'AE', "Scheduled Study Location AE Title(s)" },
{ 0x0032, 0x1030, 'LO', "Reason for Study" },
{ 0x0032, 0x1032, 'PN', "Requesting Physician" },
{ 0x0032, 0x1033, 'LO', "Requesting Service" },
{ 0x0032, 0x1040, 'DA', "Study Arrival Date" },
{ 0x0032, 0x1041, 'TM', "Study Arrival Time" },
{ 0x0032, 0x1050, 'DA', "Study Completion Date" },
{ 0x0032, 0x1051, 'TM', "Study Completion Time" },
{ 0x0032, 0x1055, 'CS', "Study Component Status ID" },
{ 0x0032, 0x1060, 'LO', "Requested Procedure Description" },
{ 0x0032, 0x1064, 'SQ', "Requested Procedure Code Sequence" },
{ 0x0032, 0x1070, 'LO', "Requested Contrast Agent" },
{ 0x0032, 0x4000, 'LT', "Study Comments" },
{ 0x0038, 0x0000, 'UL', "Group 0038 Length" },
{ 0x0038, 0x0004, 'SQ', "Referenced Patient Alias Sequence" },
{ 0x0038, 0x0008, 'CS', "Visit Status ID" },
{ 0x0038, 0x0010, 'LO', "Admission ID" },
{ 0x0038, 0x0011, 'LO', "Issuer of Admission ID" },
{ 0x0038, 0x0016, 'LO', "Route of Admissions" },
{ 0x0038, 0x001A, 'DA', "Scheduled Admission Date" },
{ 0x0038, 0x001B, 'TM', "Scheduled Admission Time" },
{ 0x0038, 0x001C, 'DA', "Scheduled Discharge Date" },
{ 0x0038, 0x001D, 'TM', "Scheduled Discharge Time" },

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{ 0x0038, 0x001E, 'LO', "Scheduled Patient Institution Residence" },
{ 0x0038, 0x0020, 'DA', "Admitting Date" },
{ 0x0038, 0x0021, 'TM', "Admitting Time" },
{ 0x0038, 0x0030, 'DA', "Discharge Date" },
{ 0x0038, 0x0032, 'TM', "Discharge Time" },
{ 0x0038, 0x0040, 'LO', "Discharge Diagnosis Description" },
{ 0x0038, 0x0044, 'SQ', "Discharge Diagnosis Code Sequence" },
{ 0x0038, 0x0050, 'LO', "Special Needs" },
{ 0x0038, 0x0300, 'LO', "Current Patient Location" },
{ 0x0038, 0x0400, 'LO', "Patient's Institution Residence" },
{ 0x0038, 0x0500, 'LO', "Patient State" },
{ 0x0038, 0x4000, 'LT', "Visit Comments" },
{ 0x0088, 0x0000, 'UL', "Group 0088 Length" },
{ 0x0088, 0x0130, 'SH', "Storage Media File-set ID" },
{ 0x0088, 0x0140, 'UI', "Storage Media File-set UID" },
{ 0x2000, 0x0000, 'UL', "Group 2000 Length" },
{ 0x2000, 0x0010, 'IS', "Number of Copies" },
{ 0x2000, 0x0020, 'CS', "Print Priority" },
{ 0x2000, 0x0030, 'CS', "Medium Type" },
{ 0x2000, 0x0040, 'CS', "Film Destination" },
{ 0x2000, 0x0050, 'LO', "Film Session Label" },
{ 0x2000, 0x0060, 'IS', "Memory Allocation" },
{ 0x2000, 0x0500, 'SQ', "Referenced Film Box Sequence" },
{ 0x2010, 0x0000, 'UL', "Group 2010 Length" },
{ 0x2010, 0x0010, 'ST', "Image Display Format" },
{ 0x2010, 0x0030, 'CS', "Annotation Display Format ID" },
{ 0x2010, 0x0040, 'CS', "Film Orientation" },
{ 0x2010, 0x0050, 'CS', "Film Size ID" },
{ 0x2010, 0x0060, 'CS', "Magnification Type" },
{ 0x2010, 0x0080, 'CS', "Smoothing Type" },
{ 0x2010, 0x0100, 'CS', "Border Density" },
{ 0x2010, 0x0110, 'CS', "Empty Image Density" },
{ 0x2010, 0x0120, 'US', "Min Density" },
{ 0x2010, 0x0130, 'US', "Max Density" },
{ 0x2010, 0x0140, 'CS', "Trim" },
{ 0x2010, 0x0150, 'ST', "Configuration Information" },
{ 0x2010, 0x0500, 'SQ', "Referenced Film Session Sequence" },
{ 0x2010, 0x0510, 'SQ', "Referenced Basic Image Box Sequence" },
{ 0x2010, 0x0520, 'SQ', "Referenced Basic Annotation Box Sequence" },
{ 0x2020, 0x0000, 'UL', "Group 2020 Length" },
{ 0x2020, 0x0010, 'US', "Image Position" },
{ 0x2020, 0x0020, 'CS', "Polarity" },
{ 0x2020, 0x0030, 'DS', "Requested Image Size" },
{ 0x2020, 0x0110, 'SQ', "Preformatted Greyscale Image Sequence" },
{ 0x2020, 0x0111, 'SQ', "Preformatted Color Image Sequence" },
{ 0x2020, 0x0130, 'SQ', "Referenced Image Overlay Box Sequence" },
{ 0x2020, 0x0140, 'SQ', "Referenced VOI LUT Sequence" },
{ 0x2030, 0x0000, 'UL', "Group 2030 Length" },

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{ 0x2030, 0x0010, 'US', "Annotation Position" },
{ 0x2030, 0x0020, 'LO', "Text String" },
{ 0x2040, 0x0000, 'UL', "Group 2040 Length" },
{ 0x2040, 0x0010, 'SQ', "Referenced Overlay Plane Sequence" },
{ 0x2040, 0x0011, 'US', "Referenced Overlay Plane Groups" },
{ 0x2040, 0x0060, 'CS', "Overlay Magnification Type" },
{ 0x2040, 0x0070, 'CS', "Overlay Smoothing Type" },
{ 0x2040, 0x0080, 'CS', "Overlay Foreground Density" },
{ 0x2040, 0x0090, 'CS', "overlay Mode" },
{ 0x2040, 0x0100, 'CS', "Threshold Density" },
{ 0x2040, 0x0500, 'SQ', "Referenced Image Box Sequence" },
{ 0x2100, 0x0000, 'UL', "Group 2100 Length" },
{ 0x2100, 0x0020, 'CS', "Execution Status" },
{ 0x2100, 0x0030, 'CS', "Execution Status Info" },
{ 0x2100, 0x0040, 'DA', "Creation Date" },
{ 0x2100, 0x0050, 'TM', "Creation Time" },
{ 0x2100, 0x0070, 'AE', "Originator" },
{ 0x2100, 0x0500, 'SQ', "Referenced Print Job Sequence" },
{ 0x2110, 0x0000, 'UL', "Group 2110 Length" },
{ 0x2110, 0x0010, 'CS', "Printer Status" },
{ 0x2110, 0x0020, 'CS', "Printer Status Info" },
{ 0x2110, 0x0030, 'ST', "Printer Name" },
{ 0x4000, 0x0000, 'UL', "Group 4000 Length (RET)" },
{ 0x4000, 0x0010, 'SH', "Arbitray (RET)" },
{ 0x4000, 0x4000, 'LT', "Group 4000 Comments (RET)" },
{ 0x4008, 0x0000, 'UL', "Group 4008 Length" },
{ 0x4008, 0x0040, 'SH', "Results ID" },
{ 0x4008, 0x0042, 'LO', "Results ID Issuer" },
{ 0x4008, 0x0050, 'SQ', "Referenced Interpretation Sequence" },
{ 0x4008, 0x0100, 'DA', "Interpretation Recorded Date" },
{ 0x4008, 0x0101, 'TM', "Interpretation Recorded Time" },
{ 0x4008, 0x0102, 'PN', "Interpretation Recorder" },
{ 0x4008, 0x0103, 'LO', "Reference to Recorded Sound" },
{ 0x4008, 0x0108, 'DA', "Interpretation Transcription Time" },
{ 0x4008, 0x0109, 'TM', "Interpretation Transcription Time" },
{ 0x4008, 0x010A, 'PN', "Interpretation Transcriber" },
{ 0x4008, 0x010B, 'ST', "Interpretation Text" },
{ 0x4008, 0x010C, 'PN', "Interpretation Author" },
{ 0x4008, 0x0111, 'SQ', "Interpretation Approver Sequence" },
{ 0x4008, 0x0112, 'DA', "Interpretation Approval Date" },
{ 0x4008, 0x0113, 'TM', "Interpretation Approval Time" },
{ 0x4008, 0x0114, 'PN', "Physician Approving Interpretation" },
{ 0x4008, 0x0115, 'LT', "Interpretation Diagnosis Description" },
{ 0x4008, 0x0117, 'SQ', "Diagnosis Code Sequence" },
{ 0x4008, 0x0118, 'SQ', "Results Distribution List Sequence" },
{ 0x4008, 0x0119, 'PN', "Distribution Name" },
{ 0x4008, 0x011A, 'LO', "Distribution Address" },
{ 0x4008, 0x0200, 'SH', "Interpretation ID" },

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{ 0x4008, 0x0202, 'LO', "Interpretation ID Issuer" },
{ 0x4008, 0x0210, 'CS', "Interpretation Type ID" },
{ 0x4008, 0x0212, 'CS', "Interpretation Status ID" },
{ 0x4008, 0x0300, 'ST', "Impression" },
{ 0x4008, 0x4000, 'SH', "Group 4008 Comments" },
{ 0x5000, 0x0000, 'UL', "Group 5000 Length" },
{ 0x5000, 0x0005, 'US', "Curve Dimensions" },
{ 0x5000, 0x0010, 'US', "Number of Points" },
{ 0x5000, 0x0020, 'CS', "Type of Data" },
{ 0x5000, 0x0022, 'LO', "Curve Description" },
{ 0x5000, 0x0030, 'SH', "Axis Units" },
{ 0x5000, 0x0040, 'SH', "Axis Labels" },
{ 0x5000, 0x0103, 'US', "Data Value Representation" },
{ 0x5000, 0x0104, 'US', "Minimum Coordinate Value" },
{ 0x5000, 0x0105, 'US', "Maximum Coordinate Value" },
{ 0x5000, 0x0106, 'SH', "Curve Range" },
{ 0x5000, 0x0110, 'US', "Curve Data Descriptor" },
{ 0x5000, 0x0112, 'US', "Coordinate Start Value" },
{ 0x5000, 0x0114, 'US', "Coordinate Step Value" },
{ 0x5000, 0x2000, 'US', "Audio Type" },
{ 0x5000, 0x2002, 'US', "Audio Sample Format" },
{ 0x5000, 0x2004, 'US', "Number of Channels" },
{ 0x5000, 0x2006, 'UL', "Number of Samples" },
{ 0x5000, 0x2008, 'UL', "Sample Rate" },
{ 0x5000, 0x200A, 'UL', "Total Time" },
{ 0x5000, 0x200C, 'OX', "Audio Sample Data" },
{ 0x5000, 0x200E, 'LT', "Audio Comments" },
{ 0x5000, 0x3000, 'OX', "Curve Data" },
{ 0x6000, 0x0000, 'UL', "Group 6000 Length" },
{ 0x6000, 0x0010, 'US', "Rows" },
{ 0x6000, 0x0011, 'US', "Columns" },
{ 0x6000, 0x0015, 'IS', "Number of Frames in Overlay" },
{ 0x6000, 0x0040, 'CS', "Overlay Type" },
{ 0x6000, 0x0050, 'SS', "Origin" },
{ 0x6000, 0x0060, 'SH', "Compression Code (RET)" },
{ 0x6000, 0x0100, 'US', "Bits Allocated" },
{ 0x6000, 0x0102, 'US', "Bit Position" },
{ 0x6000, 0x0110, 'SH', "Overlay Format (RET)" },
{ 0x6000, 0x0200, 'US', "Overlay Location (RET)" },
{ 0x6000, 0x1100, 'US', "Overlay Descriptor - Gray" },
{ 0x6000, 0x1101, 'US', "Overlay Descriptor - Red" },
{ 0x6000, 0x1102, 'US', "Overlay Descriptor - Green" },
{ 0x6000, 0x1103, 'US', "Overlay Descriptor - Blue" },
{ 0x6000, 0x1200, 'US', "Overlays - Gray" },
{ 0x6000, 0x1201, 'US', "Overlays - Red" },
{ 0x6000, 0x1202, 'US', "Overlays - Green" },
{ 0x6000, 0x1203, 'US', "Overlays - Blue" },
{ 0x6000, 0x1301, 'IS', "ROI Area" },

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{ 0x6000, 0x1302, 'DS', "ROI Mean" },
{ 0x6000, 0x1303, 'DS', "ROI Standard Deviation" },
{ 0x6000, 0x3000, 'OW', "Overlay Data" },
{ 0x6000, 0x4000, 'SH', "Group 6000 Comments (RET)" },
{ 0x7FE0, 0x0000, 'UL', "Group 7FE0 Length" },
{ 0x7FE0, 0x0010, 'OX', "Pixel Data" },
{ 0xFFFE, 0xE000, 'DL', "Item" },
{ 0xFFFE, 0xE00D, 'DL', "Item Delimitation Item" },
{ 0xFFFE, 0xE0DD, 'DL', "Sequence Delimitation Item" },
{ 0x0, 0, 0x0, 0}
};
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