Memorandum

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To: Deepika Nagaraj   Mike Lambeth

cc: Michael Lacasse   Dave Schmitt   Neil Horner   Tony Kerr
         Ralph Groves   Michael Reynolds Matt Morgan

From: John Effland

Date: 2008-06-10

Revs:

1.0	2008-04-23	jee	Initial
2.0	2008-04-24	jee	Added input for initial screen, device selection, changed status screen, and removed `Add Event` screen
3.1	2008-06-10	jee	Updated to align with current Preamp Screen design
3.2	2008-06-16	jee	Updated based on this morning's feedback

Subject: Internet Browser Screens to Manage Band 6 Preamp Construction

1. Introduction

This memo provides updated screens for the browser-based design to manage Band 6 preamps, and attempts to consolidate requirements into a single document, because there are too many e-mails with suggested design enhancements which render it difficult to know exactly what is being designed.

The memo is also written in response to Deepika's latest e-mail of the proposed design, dated Monday, June 09, 2008 2:15 PM, which discussed her latest Internet browser screen, Figure 1. Documents describing previous design versions are available from hyperlinks in the above Rev table.

Screen designs presented here incorporate the fields from tables defined in Ver. 2.4 of the database schema, reproduced in Figure 5.

Finally, note that it is important to distinguish between the preamp status screen, proposed and outlined in Figure 2, and the `Add/Modify` screens, shown in Figure 3.

1.1 Preamp Status Screen

The proposed preamp status screen of Figure 2 includes the following features:

1. Selection of preamp of interest by selecting the serial number from a select box.
2. Modification of attributes of the selected preamp by pressing the `Modify` button.
3. Entering a new preamp with the `New` button.
4. Selecting the mixer to which this preamp attaches using standard nomenclature:

   Part of Mixer-preamp 155 : 235 /133 :17

where the mating mixer screen is obtained from the 155 hyperlink, and the matched preamp screen from the 133 hyperlink. If no such pairing exists, then the hyperlink is not present.

5. Selecting the relevant "Assembly" by clicking on the hyperlink in the events table. New assemblies might change data in the top half of the screen.
6. Warm and cold measurement data are available by selecting the appropriate hyperlinks. Old measurement data are available by selecting the appropriate hyperlink in the Events table located at the bottom of the status screen.
7. The HFET wafer and chip parameters are available from the table at the bottom of the screen.
8. The notes table at the bottom of the screen contains notes (entered using the Add/Modify screen) and I have included an example set from our latest mixer shipment to ACC.

No changes can be made to any entries from the status screen. The `Modify` button located at the top of the screen must be pressed to add or change information, as described in the next section.

1.2 Preamp Modify Screen

Additions and changes to preamp information occur from this screen, shown in Figure 3. The all-important `Update Record` button is located at the top of the screen. This screen has the following features:

1. Removing a preamp, either from a mixer or from a matched pair, is accomplished by pressing the `Remove Preamp` button, which automatically records the date of removal. The user should probably be forced to enter notes about what is removed.
2. Location information about the preamp is entered using the Notes section at the bottom of the screen.

1.3 Common Screen Elements

The `Bugs/Enhancements` button loads the software bug tracking web page, which will soon be upgraded to allow requests to enhance software in addition to tracking bugs. A `Help` button loads an HTML help file.

Table 1 and Figure 4 describe the common drop-down box located at the top of each page.

Figure 1: Proposed Update Screen from Nagaraj, dated Monday, June 09, 2008 2:15 PM
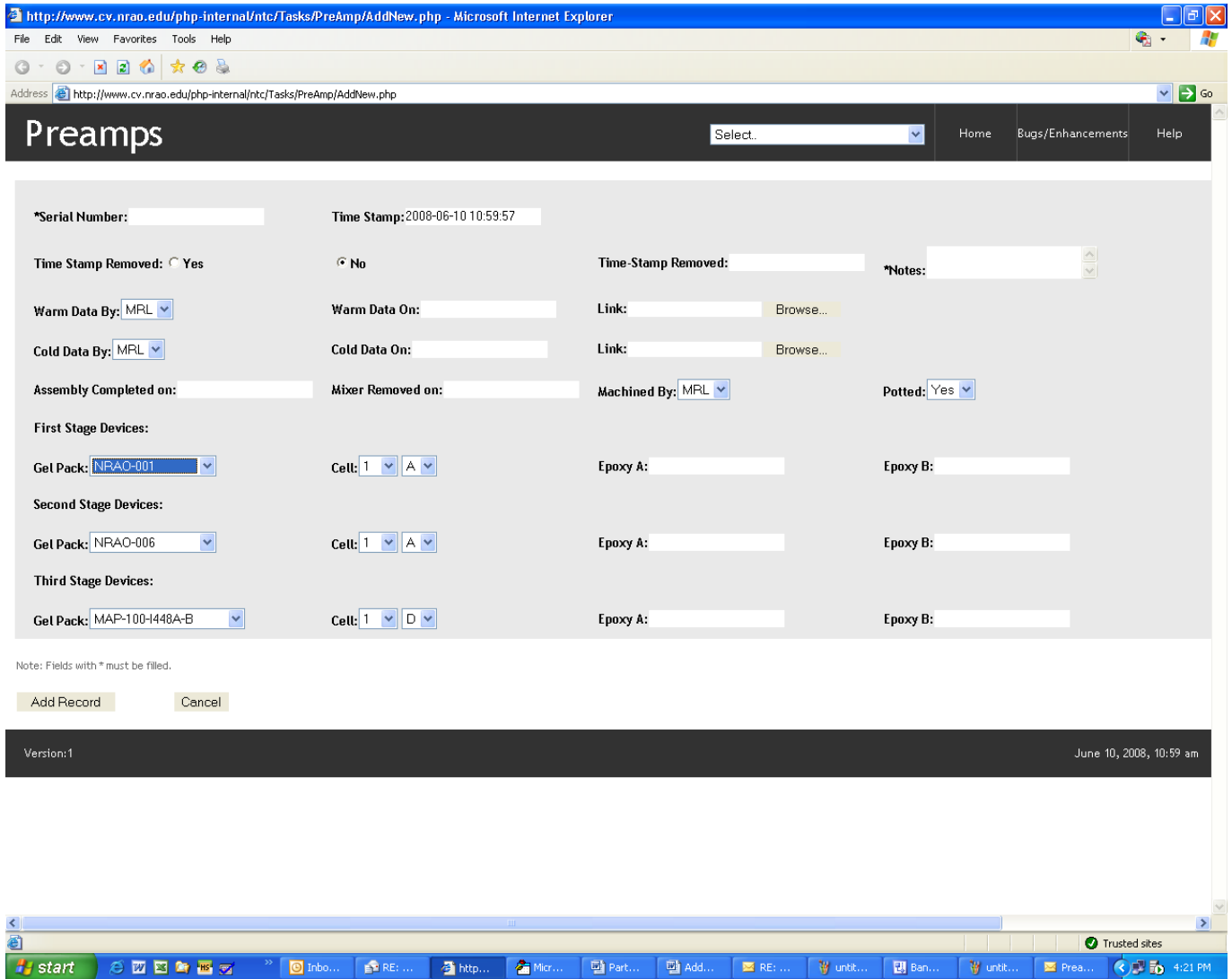
Figure 2: Proposed Preamp Status Screen

Preamps	Modify	New	Select.. ⌄	Home	Bugs/Enhancements	Help

Serial # 235 ⌄	Part of Mixer-preamp 155 : 235 /133 :17 Assembly #: 2242	Location: Desiccator on 2008-04-24 09:45 Status: Ready for Cart on 2008-04-24 09:45

Warm Data measured: 2008-04-24 09:45 by: ML   Cold Data measured: 2008-04-24 09:45 by: ML

Stage	Gel-Pack	Cell	Epoxy A	Epoxy B
1st	NRAO-001	A10	PB012345	PB135673
2nd	NRAO-006	D4	PB112345	PB112345
3rd	MAP-100-2006-09-A	J2	PB112345	PB112344

Events

Date[1]	Location	Status	Who	Assem	Data	Notes
2008-06-11	Desiccator	Ready for CTS	ML	2242		Reinstalled in mixer block 155.
2008-06-11	ATS	Under test	ML	2242	⊞	Cold tested
2008-06-11	ATS	Under test	ML	2242	⊞	Warm tested
2008-06-11	Desiccator	Awaiting test	ML	2242		1st stage replaced
2008-06-11	Desiccator	Needs repair	ML	2234		Date Removed Entered
2008-06-11	Desiccator	Needs repair	ML	2234		Ralph reports high noise temps, status changed to "Needs Repair"
2008-06-11	Desiccator	Ready for MTS	ML	2234		Preamp installed in mixer block 155, ready for MTS testing
2008-06-11	Desiccator	Preamp Matched	ML	2234		Preamp matched with 133
2008-06-11	ATS	Under test	ML	2234	⊞	Cold tested
2008-06-11	ATS	Awaiting test	ML	2234		This preamp was measured cold today but the ATS has temperature problems

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[1] Events are ordered chronologically with most recent at top.

2008-06-11	Mxr Assm Lab	Awaiting test	ML	[2234](#)	⊞	Warm tested
2008-06-11	Mxr Assm Lab	Awaiting test	ML	[2234](#)		Active devices installed
2008-06-11	Mxr Assm Lab	Awaiting chips	RG	[2234](#)		Blocks received from ACC - passive components inserted
2008-06-11	ACC	At ACC	RG	[2234](#)		Blocks returned to ACC
2008-06-11	Mxr Assm Lab	At ACC	MR	[2234](#)		Screw holes cleaned out
2008-06-11	Mxr Assm Lab	Needs repair	ML	[2234](#)		ACC returned block, can't fit screws in lids
2008-06-11	ACC	At ACC	RG	[2234](#)		Preamps shipped to ACC
2008-06-11	Mxr Assm Lab	Block Fab	RG	[2234](#)		Blocks given to Gerry today to be plated
2008-06-11	Mxr Assm Lab	Block Fab	RG	[2234](#)		Blocks cleaned for plating
2008-06-11	Mxr Assm Lab	Block Fab	RG	[2234](#)		Blocks received from shop.

Figure 3: Modify Preamp Screen

Modify Preamps	Update Record	Remove Preamp*	Select.. ▼ Home Bugs/Enhancements Help
Serial # 235			

Your name: ML ▼

Change location to: ACC ▼

Change status to: Ready for Cart ▼

Match with preamp: Enter serial # ▼

Warm data file: [   ] Browse…

Cold data file: [   ] Browse…

Entry on: 2008-06-16 14:40

Notes:
```
Type notes here
```

Miscellaneous data file: [   ] Browse…

Add/Change Devices*:

Stage	Gel-Pack	Cell		Epoxy A	Epoxy B
1st	NRAO-001 ▼	1 ▼	1A ▼	[ ]	[ ]
2nd	NRAO-001 ▼	1 ▼	1A ▼	[ ]	[ ]
3rd	NRAO-001 ▼	1 ▼	1A ▼	[ ]	[ ]

Items marked with * cause assembly number to change.

Table 1: Items in `View All` Drop-Down Screen	
Item Text	**Action when selected…links to**
View All	list all preamps in database
View New	list all preamps with no entries
----------------	divider
Account Nums	Band 6 account number web page
Bugs	Software bug tracking web page
Leave Schedule	NTC leave schedule
Phone Book	NRAO phone book
Plating Jobs	NTC Plating job listing
NTC Tasks	NTC task web page
NTC Conf Room Sched	Conference room schedule
NTC Penthouse Sched	Penthouse schedule
Tasks Database	Band 6 task database web page
Shop Jobs	NTC machine shop job listing

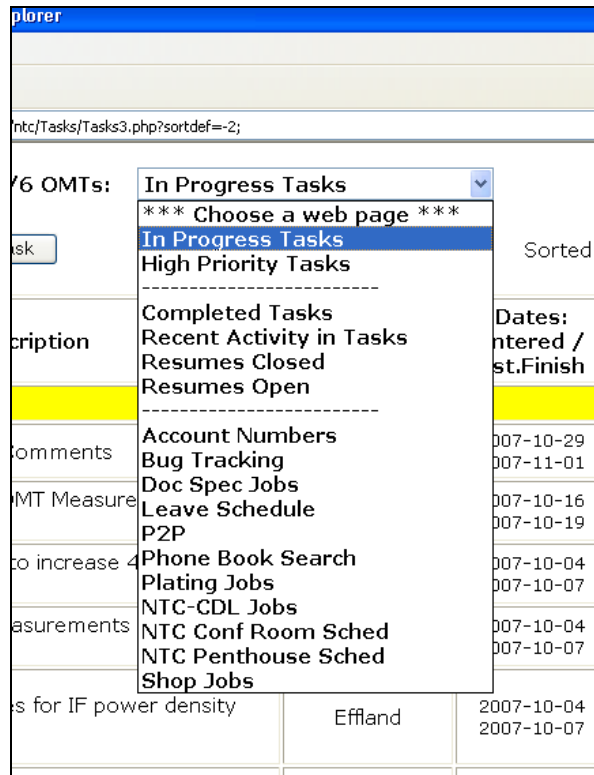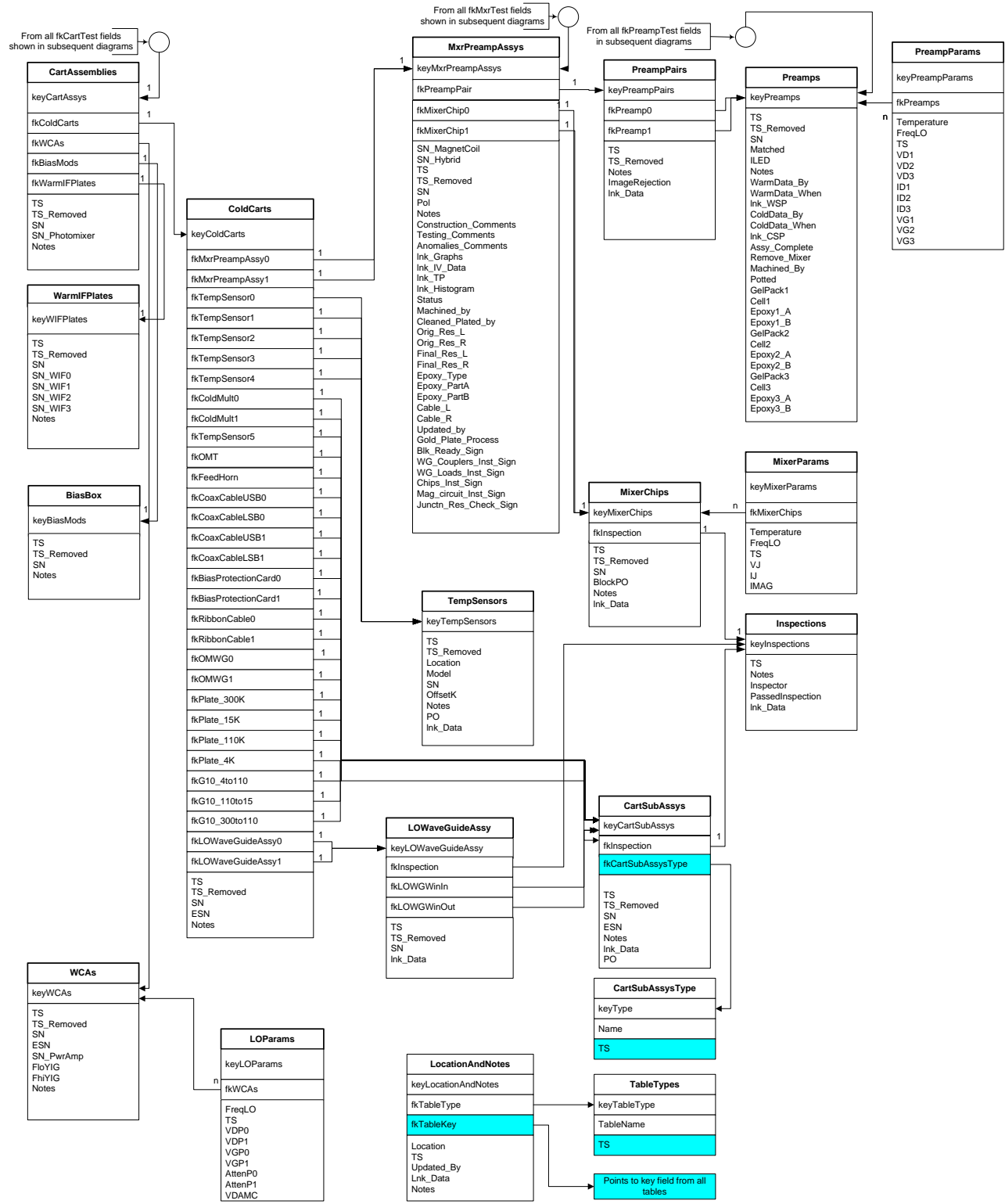**Figure 4: Sample drop-down box from Band 6 Tasks Software**

Figure 5: Database Schema Ver. 2.4

From all fkCartTest fields shown in subsequent diagrams

From all fkMxrTest fields shown in subsequent diagrams

From all fkPreampTest fields shown in subsequent diagrams

CartAssemblies
- keyCartAssys
- fkColdCarts
- fkWCAs
- fkBiasMods
- fkWarmIFPlates
- TS
- TS_Removed
- SN
- SN_Photomixer
- Notes

WarmIFPlates
- keyWIFPlates
- TS
- TS_Removed
- SN
- SN_WIF0
- SN_WIF1
- SN_WIF2
- SN_WIF3
- Notes

BiasBox
- keyBiasMods
- TS
- TS_Removed
- SN
- Notes

ColdCarts
- keyColdCarts
- fkMxrPreampAssy0
- fkMxrPreampAssy1
- fkTempSensor0
- fkTempSensor1
- fkTempSensor2
- fkTempSensor3
- fkTempSensor4
- fkColdMult0
- fkColdMult1
- fkTempSensor5
- fkOMT
- fkFeedHorn
- fkCoaxCableUSB0
- fkCoaxCableLSB0
- fkCoaxCableUSB1
- fkCoaxCableLSB1
- fkBiasProtectionCard0
- fkBiasProtectionCard1
- fkRibbonCable0
- fkRibbonCable1
- fkOMWG0
- fkOMWG1
- fkPlate_300K
- fkPlate_15K
- fkPlate_110K
- fkPlate_4K
- fkG10_4to110
- fkG10_110to15
- fkG10_300to110
- fkLOWaveGuideAssy0
- fkLOWaveGuideAssy1
- TS
- TS_Removed
- SN
- ESN
- Notes

MxrPreampAssys
- keyMxrPreampAssys
- fkPreampPair
- fkMixerChip0
- fkMixerChip1
- SN_MagnetCoil
- SN_Hybrid
- TS
- TS_Removed
- SN
- Pol
- Notes
- Construction_Comments
- Testing_Comments
- Anomalies_Comments
- lnk_Graphs
- lnk_IV_Data
- lnk_TP
- lnk_Histogram
- Status
- Machined_by
- Cleaned_Plated_by
- Orig_Res_L
- Orig_Res_R
- Final_Res_L
- Final_Res_R
- Epoxy_Type
- Epoxy_PartA
- Epoxy_PartB
- Cable_L
- Cable_R
- Updated_by
- Gold_Plate_Process
- Blk_Ready_Sign
- WG_Couplers_Inst_Sign
- WG_Loads_Inst_Sign
- Chips_Inst_Sign
- Mag_circuit_Inst_Sign
- Junctn_Res_Check_Sign

PreampPairs
- keyPreampPairs
- fkPreamp0
- fkPreamp1
- TS
- TS_Removed
- Notes
- lnk_Data

Preamps
- keyPreamps
- TS
- TS_Removed
- SN
- Matched
- ILED
- Notes
- WarmData_By
- WarmData_When
- lnk_WSP
- ColdData_By
- ColdData_When
- lnk_CSP
- Assy_Complete
- Remove_Mixer
- Machined_By
- Potted
- GelPack1
- Cell1
- Epoxy1_A
- Epoxy1_B
- GelPack2
- Cell2
- Epoxy2_A
- Epoxy2_B
- GelPack3
- Cell3
- Epoxy3_A
- Epoxy3_B

PreampParams
- keyPreampParams
- fkPreamps
- Temperature
- FreqLO
- TS
- VD1
- VD2
- VD3
- ID1
- ID2
- ID3
- VG1
- VG2
- VG3

MixerParams
- keyMixerParams
- fkMixerChips
- Temperature
- FreqLO
- TS
- VJ
- IJ
- IMAG

MixerChips
- keyMixerChips
- fkInspection
- TS
- TS_Removed
- SN
- BlockPO
- Notes
- lnk_Data

TempSensors
- keyTempSensors
- TS
- TS_Removed
- Location
- Model
- SN
- OffsetK
- Notes
- PO
- lnk_Data

Inspections
- keyInspections
- TS
- Notes
- Inspector
- PassedInspection
- lnk_Data

LOWaveGuideAssy
- keyLOWaveGuideAssy
- fkInspection
- fkLOWGWinIn
- fkLOWGWinOut
- TS
- TS_Removed
- SN
- lnk_Data

CartSubAssys
- keyCartSubAssys
- fkInspection
- fkCartSubAssysType
- TS
- TS_Removed
- SN
- ESN
- Notes
- lnk_Data
- PO

CartSubAssysType
- keyType
- Name
- TS

WCAs
- keyWCAs
- TS
- TS_Removed
- SN
- ESN
- SN_PwrAmp
- FloYIG
- FhiYIG
- Notes

LOParams
- keyLOParams
- fkWCAs
- FreqLO
- TS
- VDP0
- VDP1
- VGP0
- VGP1
- AttenP0
- AttenP1
- VDAMC

LocationAndNotes
- keyLocationAndNotes
- fkTableType
- fkTableKey
- Location
- TS
- Updated_By
- Lnk_Data
- Notes

TableTypes
- keyTableType
- TableName
- TS

Points to key field from all tables

Ver 2.4 2008-06-06 jee Added PreampPair table. See notes for details.
Ver 2.3 2008-06-02 dn Added fields to Preamps
Ver 2.2 2008-05-30 jee Added fkOMT to ColdCarts
    Changed table "Location" to LocationAndNotes" and added more fields to that.
Ver 2.1 2008-05-23 jee added TS to TableTypes and CartSubAssysType
Ver:2

\\cvfiler.nrao.edu\cv-cdl-sis\Software\Documentation\Band6dbSchema2.4.vsd