

PASSCAL Cable Testing & Inventories

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PASSCAL Cables

- 20,650 - Total quantity of cables in the PASSSCAL inventory (Approximate count)
- 491 - Number of cable types managed by PASSCAL
- PASSCAL Hardware group oversees cable inventory, repair & testing
- Cables have a description from a standard method that includes connected equipment and connectors
- Cables are tested on a in house system built around the *CableEye*® *Cable Tester*
- Cables are handled and stored in PASSCAL according to a standardized method



Naming Convention

- Descriptions / Names used in inventory and testing systems follow a methodology
- Used for databased, not conversation
 - (“B44/Q330, 0.5m” vs QNET cable)
- Descriptions go in "Model" and "Style" fields in PASSCAL Inventory System (PIS)



Naming Convention

- Model
 - Describes station components that cable connects
 - From outside to center of station layout, with DAS at center
 - "/" between components
 - Followed by cable length in meters
- Style
 - List connectors in same order as components in “Model” field
 - "/" between connectors
 - Followed by any other identifying features
 - Example: different jacket types

Full Examples of Cable Descriptions

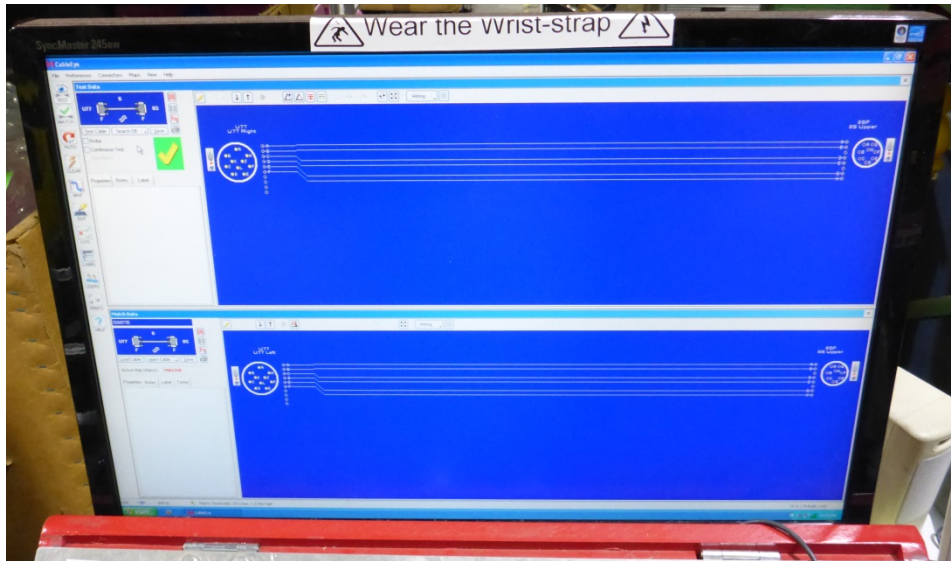
Manufacturer	Model	Style
Streckeisen	STS-2/BOB, 5m	18p/19s
PASSCAL	Battery/PwrBox, 1m	fork-ring/3s, 14-16 gauge
CTI	T120PHQ/PwrBox/Q330, 6m/3m	20s/4p/26p, poly

Cable Tester

- Integrated system built with industry solutions
- *CableEye® Cable Tester*
- PC-Based Cable and Harness Test System
- ~\$12k for the *CableEye® Cable Tester*
 - Does NOT include connectors, computer, test stand, UPS, etc.
- M3U (Low Voltage)
 - Diagnostic and Pass/Fail Testing
 - Find, display, log, & document
 - Continuity (opens, shorts, miswires)
 - Intermittent connections
 - Resistance (contact, isolation, embedded)
 - Diodes (orientation, forward voltage, reverse breakdown).



Cable Tester



Tester Software Interface

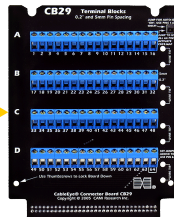
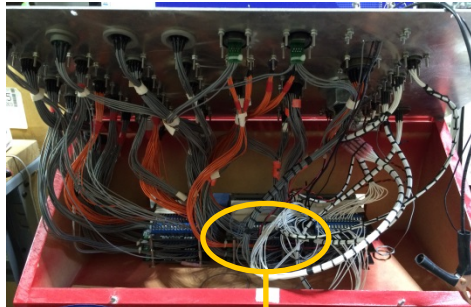
- View cable status
 - Pass/Fail
- Cable database
 - Lookup by PIS Barcode #
- Discovery
 - Schematic of new / unknown

Tester Cable Interface

- Connect cable ends
- Configured in house
 - Built to PASSCAL needs



Cable Tester Parts

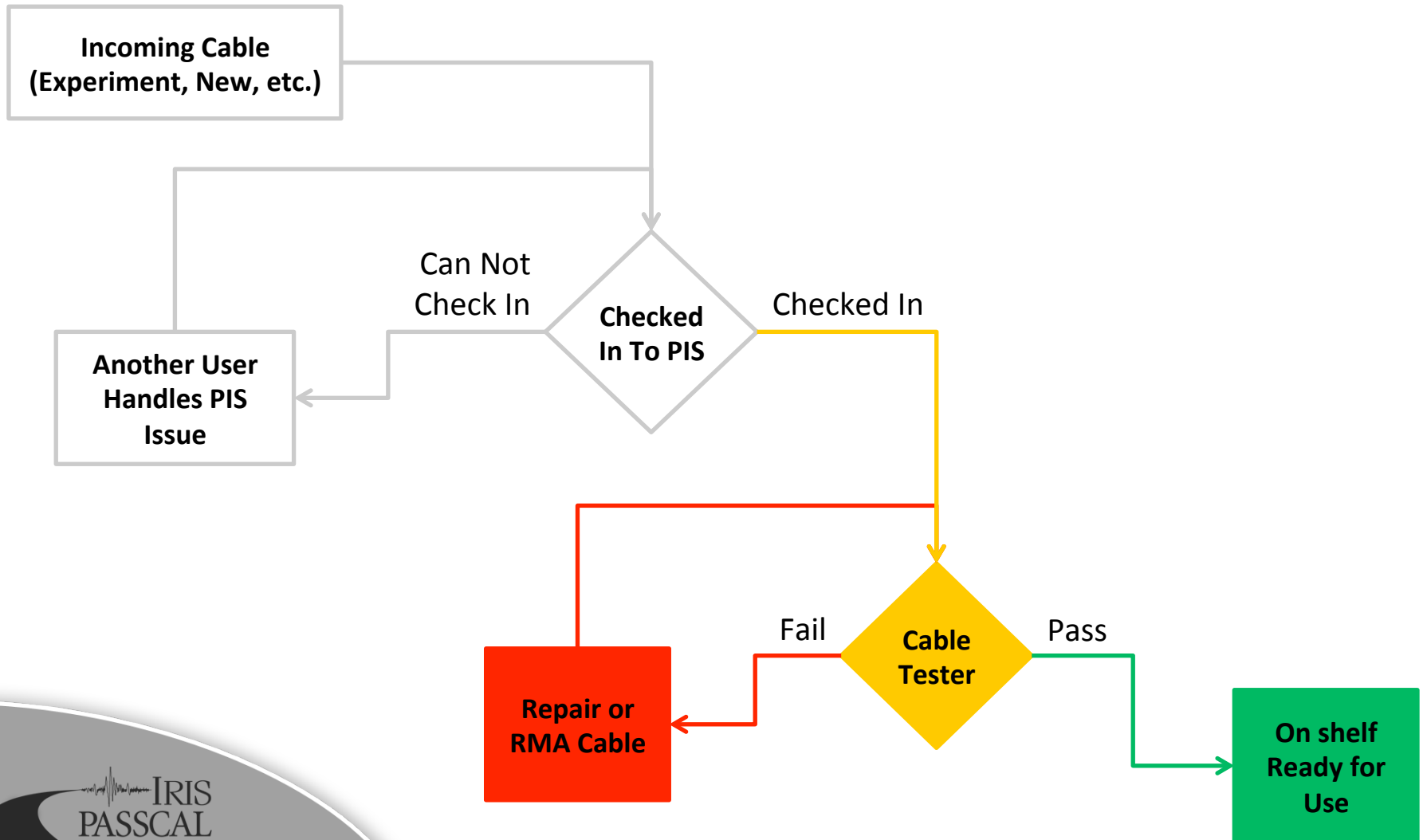




Cable Sorting

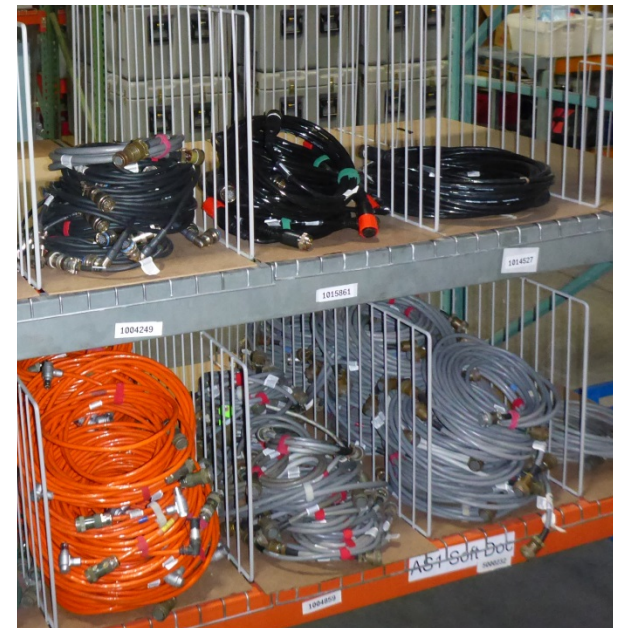
- High volumes of cables to test and store
- Testing and results recording / marking methods need to be efficient – Mission Critical
- Storage system needs to be effective – Mission Critical
- Basic Scheme
 - Green = Good
 - White = Cables that are not checked in to the inventory system & need testing
 - Yellow = Cables that are checked in to the inventory system & need testing
 - Red = Bad

Cable Sorting Flow




Cable Sorting: Green

- Good cables are kept in green bins or on shelves designated for specific large cables
- Cables taken from green bins or designated good shelves must be checked out from the PASSCAL Inventory System (PIS)
 - Experiment, R&D, Training



- **No Green Tags**



Cable Sorting: White/Yellow

- White Bins
 - Cables that were unable to be checked in
 - Good or bad status TBD
 - Not used by staff that are not testing cables
- Yellow Bins
 - Cables that are checked in as present at PASSCAL
 - Good or bad status TBD
 - Not used by staff that are not testing cables

Cable Sorting: Red

- Cables that have problems are kept in red bins while they are in queue to be serviced
- Tags
 - Used in addition to red bins help identify problem cables
 - Allow for information about the problem to follow the cable



Acknowledgements



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NMT: New Mexico Tech

